

**NONHAZARDOUS LOCATION**

or

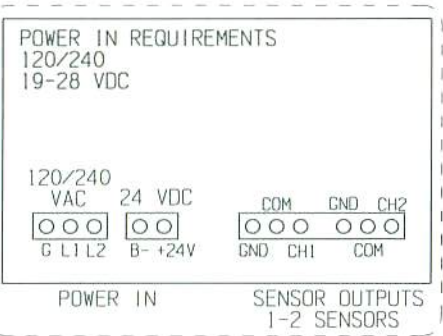
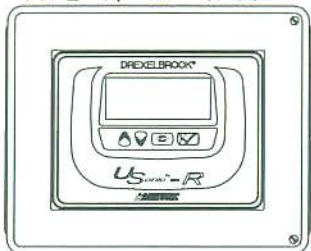
**Hazardous (Classified) Location**

CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, F AND G  
 CLASS I, ZONE 2, GROUP IIC AMB. TEMP. -40°C TO 70°C....T4

**U-SONIC R SERIES**

SINGLE OUPUT			COMBINED OUPUTS		
U <sub>o</sub> = 25.9 V			U <sub>o</sub> = 25.9 V		
I <sub>o</sub> = 69.5 mA			I <sub>o</sub> = 139 mA		
P <sub>o</sub> = 0.45 mW			P <sub>o</sub> = 0.9 W		
GAS GROUPS	C <sub>a</sub>	L <sub>a</sub>	GAS GROUPS	C <sub>a</sub>	L <sub>a</sub>
A, B	100 nF	7.4 mH	A, B	100 nF	1.8 mH
C	0.77 uF	29 mH	C	0.77 uF	7.8 mH
D	2.63 uF	58 mH	D	2.63 uF	15 mH

TYPE 4, 4X IP65



U-SONIC R CERTIFIED MODEL #s

USR-ablc-0def-0ghi  
 a = POWER = 1, 2    b = OUTPUT = 1, 2  
 c = SENSOR = 0, 1, 2, 3, 4    d = CABLE LENGTH = 0, 1, 2, 3  
 e = CABLE LENGTH = 0, 2, 5    f = CABLE LENGTH = 0, 5  
 g = CABLE LENGTH = 0, 1, 2, 3    h = CABLE LENGTH = 0, 2, 5  
 i = CABLE LENGTH = 0, 5

**NOTES:**

1. V<sub>max</sub> OR U<sub>i</sub> > V<sub>t</sub>; I<sub>max</sub> OR I<sub>i</sub> > I<sub>t</sub>; (C<sub>i</sub> OF ALL LOOPS + C<sub>cab</sub>) < C<sub>o</sub> OR C<sub>o</sub>; (L<sub>i</sub> OF ALL LOOPS + L<sub>cab</sub>) < L<sub>o</sub> OR L<sub>o</sub>; P<sub>max</sub> OR P<sub>i</sub> > P<sub>o</sub>.
2. THE CONFIGURATION OF ASSOCIATED APPARATUS MUST BE FM APPROVED (CSA CERTIFIED WHEN INSTALLED IN CANADA) UNDER ENTITY CONCEPT.
3. U-SONIC R SERIES MAY BE INSTALLED WITHIN THE HAZARDOUS (CLASSIFIED) LOCATION FOR WHICH IT IS APPROVED.
4. INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA RP 12.06.01 "INSTALLATION OF INTRINSICALLY SAFE SYSTEMS FOR HAZARDOUS (CLASSIFIED) LOCATIONS" AND THE NATIONAL ELECTRICAL CODE® (ANSI/NFPA 70).
5. INSTALLATION IN CANADA SHOULD BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE, CSA C22.1, PART 1, APPENDIX F.
6. NO REVISION TO THIS DRAWING IS PERMITTED WITHOUT FM OR CSA APPROVAL.
7. DUST-TIGHT CONDUIT SEAL MUST BE USED WHEN INSTALLED IN CLASS II AND CLASS III ENVIRONMENTS.

**HAZARDOUS (CLASSIFIED) LOCATION**

CLASS I, DIVISION 1, GROUPS A, B, C AND D  
 CLASS I, ZONE 0, GROUP IIC  
 CLASS II, DIVISION 1, GROUPS E, F AND G  
 CLASS III, DIVISION 1  
 CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, F AND G  
 CLASS I, ZONE 2, GROUP IIC  
 AMB. TEMP. -40°C TO 70°C....T4

MAX CABLE LENGTH 1200 FT



USS SERIES  
 TYPE 4, 4X  
 IP 68

**USS SERIES  
 I.S. ENTITY PARAMETERS**

V <sub>max</sub> OR U <sub>i</sub> = 30 VDC
I <sub>max</sub> OR I <sub>i</sub> = 150 mA
C <sub>i</sub> = 0
L <sub>i</sub> = 0
P <sub>max</sub> OR P <sub>i</sub> = 1W

**USS SERIES CERTIFIED MODEL #s**

USS-1a-0cde  
 a = MOUNTING = 1, 2  
 c = CABLE LENGTH = 0, 1, 2, 3  
 d = CABLE LENGTH = 0, 2, 5  
 e = CABLE LENGTH = 0, 5

CABLE CAPACITANCE = 52 pF/FOOT  
 CABLE INDUCTANCE = .19 uH/FOOT  
 (AT MAXIMUM CABLE LENGTH OF 1200 FEET WITH CABLE SUPPLIED)

CERTIFIED	by _____	COPYRIGHT 2005		U-SONIC 'R' SERIES RECEIVER USS SERIES SENSOR FM & CSA CONTROL DRAWING
PO # _____		AMETEK DREXELBROOK		
ENG _____		SCALE NONE		
USER _____		UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES (MM)		
ISS. EDO/DSR NO. APP'D	1 6-05-217 <i>SJP</i>	DATE	DR. JJS 1-5-06	420-0004-309-CD
CK. _____	1/23/06			

No. 420-0004-309-CD

SHT. 1 OF 2

205 KEITH VALLEY RD  
 HORSHAM, PA 19044-9986  
 215-674-1234  
 FAX 215-674-2731


NONHAZARDOUS LOCATION  
or  
Hazardous (Classified) Location

FM APPROVED  
ASSOCIATED APPARATUS  
(SEE NOTES BELOW)

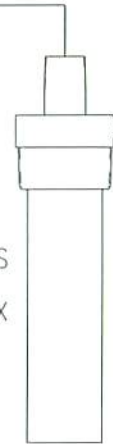
HAZARDOUS (CLASSIFIED) LOCATION

CLASS I, DIVISION 1, GROUPS A, B, C AND D  
CLASS I, ZONE 0, GROUP IIC  
CLASS II, DIVISION 1, GROUPS E, F AND G  
CLASS III, DIVISION 1  
CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, F AND G  
CLASS I, ZONE 2, GROUP IIC  
AMB. TEMP. -40°C TO 70°C....T4

USS SERIES  
I.S. ENTITY PARAMETERS

$V_{max}$  OR  $U_i = 30$  VDC  
 $I_{max}$  OR  $I_i = 150$  mA  
 $C_i = 0$   
 $L_i = 0$   
 $P_{max}$  OR  $P_i = 1$ W 

USS SERIES  
TYPE 4, 4X  
IP68




USS SERIES CERTIFIED MODEL #s

USS-1a-0cde  
a = MOUNTING = 1, 2  
c = CABLE LENGTH = 0, 1, 2, 3  
d = CABLE LENGTH = 0, 2, 5  
e = CABLE LENGTH = 0, 5

CABLE CAPACITANCE = 52 pF/FOOT  
CABLE INDUCTANCE = .19 uH/FOOT

NOTES:

- $V_{max}$  OR  $U_i > V_t$ ;  $I_{max}$  OR  $I_i > I_t$ ;  $(C_i$  OF ALL LOOPS +  $C_{cable}) < C_a$  OR  $C_o$ ;  $(L_i$  OF ALL LOOPS +  $L_{cable}) < L_a$  OR  $L_o$ ;  $P_{max}$  OR  $P_i > P_o$ .
- THE CONFIGURATION OF ASSOCIATED APPARATUS MUST BE FM APPROVED (CSA CERTIFIED WHEN INSTALLED IN CANADA) UNDER ENTITY CONCEPT.
- I.S. BARRIERS OR EQUIPMENT MUST BE FM APPROVED (CSA CERTIFIED WHEN INSTALLED IN CANADA).
- I.S. BARRIER OR EQUIPMENT MAY BE INSTALLED WITHIN THE HAZARDOUS (CLASSIFIED) LOCATION FOR WHICH IT IS APPROVED.
- I.S. BARRIER OR EQUIPMENT AND HAZARDOUS LOCATION LOOP APPARATUS MANUFACTURER'S CONTROL DRAWINGS MUST BE FOLLOWED WHEN INSTALLING A SYSTEM.
- CONTROL EQUIPMENT CONNECTED TO THE ASSOCIATED APPARATUS MUST NOT USE OR GENERATE MORE THAN 250  $V_{rms}$  OR  $V_{dc}$ .
- INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA RP 12.06.01 "INSTALLATION OF INTRINSICALLY SAFE SYSTEMS FOR HAZARDOUS (CLASSIFIED) LOCATIONS" AND THE NATIONAL ELECTRICAL CODE® (ANSI/NFPA 70).
- INSTALLATION IN CANADA SHOULD BE IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE, CSA C22.1, PART 1, APPENDIX F.
- NO REVISION TO THIS DRAWING IS PERMITTED WITHOUT FM OR CSA APPROVAL.
- AE<sub>x</sub> '[ib]' IS SUITABLE ONLY FOR CONNECTING TO CLASS I, ZONE 1 HAZARDOUS (CLASSIFIED) LOCATIONS AND NOT CLASS I, ZONE 0, OR CLASS I, DIVISION 1 HAZARDOUS (CLASSIFIED) LOCATIONS.

CERTIFIED	by _____					COPYRIGHT 2005 AMETEK DREXELBROOK		U-SONIC 'R' SERIES RECEIVER USS SERIES SENSOR FM & CSA CONTROL DRAWING	
PO #	_____					SCALE NONE UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES (MM)			
ENC	_____					DR. JJS 1-5-06			
USER	_____					CK. _____			
		1	6-05-217	af	1/26/06				
DE #	_____	ISS.	EDD/DSR NO	APP'D	DATE		205 KEITH VALLEY RD HDRSHAM, PA 19044-9986	215-674-1234 FAX 215-674-2731	
								420-0004-309-CD	SH. 2 OF 2 ISS. 1

No. 420-0004-309-CD

SHT 2 OF 2